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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/662,453   | 09/16/2003  | Mitsuhiro Sugimoto   | 4633-0107P          | 2514             |
| 2292   | 7590        | 06/28/2005           | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      | CALEY, MICHAEL H    |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2871                |                  |

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/662,453

**Applicant(s)**

SUGIMOTO ET AL.

**Examiner**

Michael H. Caley

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

Claim 15 is objected to because of the following informalities:

The claim is improperly dependent on claim 1. Claim 15 should be amended to be dependent on claim 14.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-7 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. Patent No. 6,639,589 “Kim”).**

Regarding claims 1, 12, and 13, Kim discloses a display device having:

a display panel (Figure 4 element 202) and a plurality of wiring boards (Figure 4 elements 210, 210', or Figure 5 element 210 in portions “I” and “II”) placed along a periphery of the display panel,

wherein the display panel has panel side connection wiring (Figure 4 elements 247 and 248, Figure 5 elements 281, 282, and 283) for electrically connecting a first

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wiring board (Figure 4 element 211, Figure 5 portion "I") and a second wiring board (Figure 4 element 226, Figure 5 element 220 having transmission lines "A", "B", and "C") adjacent to each other among the plurality of wiring boards (Figure 5),

each of the plurality of wiring boards having an insulating base (Figure 4 elements 211 and 221), a board-side wiring group (Figure 4 elements 213, 215, 223, and 225), and at least one driving circuit element for driving the display panel (Figure 4 elements 212' and 222),

the board-side wiring group is composed of element-connected wiring (Figure 4 elements 215, 225, Figure 5 element 283) electrically connected to the driving circuit element, first non-connected wiring (Figure 4 element 223, Figure 5 Line A, Figure 5 element 282 of first wiring board) having no electrical connection to the driving circuit element (Column 8 lines 54-60) and second non-connected wiring (Figure 4 element 223, Figure 5 Line B, Figure 5 element 281 of first wiring board) having no electrical connection to the driving circuit element, and

the panel-side connection wiring is formed so that the element connected wiring of the first wiring board (Figure 5 element 283 portion "I") and the first non-connected wiring of the second wiring board (Figure 5 Line A of element 220, Figure 4 element 223) are electrically connected to each other (Figure 5) and so that the first non-connecting wiring of the first wiring board (Figure 5 element 282) is connected to the second non-connecting wiring of the second wiring board (Figure 4 element 223, Figure 5 Line B).

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Regarding claim 2, Kim discloses the plurality of wiring boards as having wiring patterns identical in board-side wiring group (Figure 4 elements 210 and 210').

Regarding claim 3, Kim discloses

a plurality of lines constituting the board-side wiring group as running on the insulating base without crossing each other (Figures 4 and 5 element 210),

the non-connected wiring (Figure 4 element 213, Figure 5 elements 281, 282 portion "I") as in a roughly U shape as viewed from top with both ends at the periphery of the insulating base, and

at least one end of the element-connected wiring is located inside or outside both ends of the non-connected wiring at the periphery of the insulating base, or the element-connected wiring is interposed between a plurality of lines of the non-connected wiring (Figure 5 element 283 portion "I").

Regarding claim 4, Kim discloses the non-connected wiring as having another roughly U shape as viewed from top in at least a portion near one end extending in a direction away from the other end (Figure 5 elements 281 and 282 in and between portions "I" and "II").

Regarding claim 5, Kim discloses each of the plurality of wiring board (Figure 5 element 210 in portions "I" and "II") as having  $n$  or  $n+1$  sets of lines (Figure 5 elements 281, 282, and 283) that constitute the board-side wiring group and are involved in signal transmission where  $n$  is the total number of driving circuit elements (2) of the plurality of wiring boards.

Regarding claim 6, Kim discloses each wiring board as further having board-side spare wiring electrically connected to the driving circuit element (Figure 4 element 215),

the display panel further having gate lines (Figure 4 element 241), source lines (Figure 4 element 242) crossing the gate lines, switching element electrically connected to the gate lines and the source lines (Column 4 lines 1-14), pixel electrodes connected to the gate lines and the source lines via the switching elements (Column 4 lines 11-14), and panel-side spare wiring electrically connected to the board side spare wiring (Figure 4 element 245), and

the panel-side spare wiring (element 245) crosses the source lines (element 242) via an insulating film near both ends of the source lines.

It is noted that the insulating film between the intersection of lines 245 and 242 is not explicitly mentioned by Kim. Such an insulation film, however, is an inherent feature between source lines and the spare wiring “gate lines” assembled and intersecting on a common substrate, such as disclosed by Kim. Such an insulation film is necessary to separate the lines at the intersection points and is also known as a gate insulation film or layer.

Regarding claim 7, Kim discloses the display panel as a liquid crystal panel (abstract).

Regarding claim 14, Kim discloses a display device having:

a display panel (Figure 4 element 202) having panel side connection wiring (Figure 4 elements 247 and 248);

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a first wiring board (Figure 4 element 210) having an insulating base (Figure 4 element 211), a driving circuit element (Figure 4 element 212), a first wiring path (Figure 4 element 213, Figure 5 element 283) connected to the driving circuit element, a second wiring path and a third wiring path (Figure 4 element 213, Figure 5 elements 282 and 281); and

a second wiring board identical to the first wiring board (Figure 4 element 210');  
wherein the panel-side connection wiring connects the second wiring path of the first wiring board to the first wiring path of the second wiring board (Figure 5 element 282).

Regarding claim 15, Kim discloses the panel-side wiring as connecting the third wiring path of the first board to the second wiring path of the second board (Figure 5 element 281).

### ***Response to Arguments***

Applicant's arguments filed 4/15/05 have been fully considered but they are not persuasive.

Regarding the rejection of claim 1 as anticipated by Kim, Applicant argues that Kim fails to disclose the first non-connected wiring of the second wiring board as electrically connected to each other and so that the first non-connecting wiring of the first wiring board is connected to the second non-connecting wiring of the second wiring board. As part of the reasoning, Applicant states that the defined "upper wiring board" does not have element connected wiring connected to first non-connecting wiring of another board.

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The examiner disagrees, however, and has provided an element to claim limitation comparison above. In response to the statement that the “upper wiring board” does not have element connected wiring connected to first non-connecting wiring of another board, the examiner contends that Figure 5 element 283 shows the element connected wiring of the upper board connected to non-connecting wiring of another board (Figure 5 element A; Column 6 lines 12-15, Column 8 lines 54-60).

Regarding the rejection of claim 14 as anticipated by Kim, the examiner holds that Kim discloses the first and second wiring boards (Figure 4 elements 210 and 210') as identical. For example, each of the wiring boards have six of each of the driving input and output patterns (213, 213', 214, and 214') and eight driving output patterns (215 and 215') and appear to be in all other ways identical.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286.

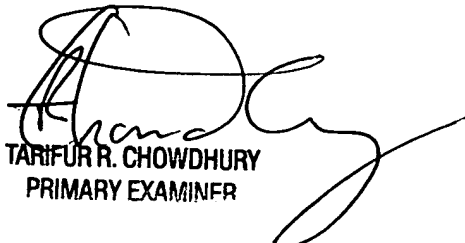
The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael H. Caley  
June 22, 2005

mhc

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER